

8/10/88

A2500-2

# Paper Paperboard & Wood Pulp

MONTHLY STATISTICAL SUMMARY - Vol. 66 No. 7

JULY 1988

## PAPER AND PAPERBOARD PRODUCTION: SLOW GROWTH AT RECORD HIGH LEVELS

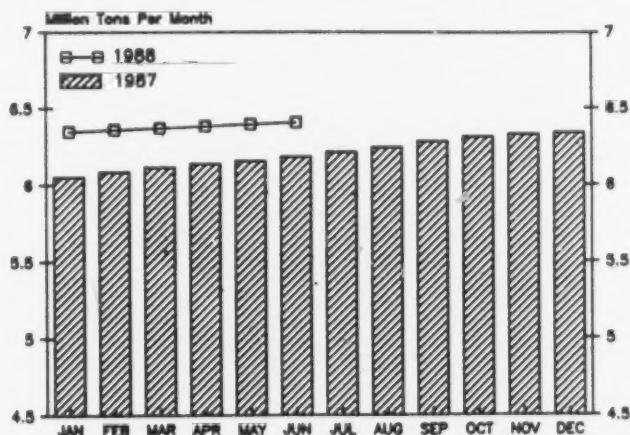
The June rate of paper and paperboard production continued the upward trend that started in mid-1985. Preliminary data show a record-high 76,530,000 tons per year in the first half of 1988, topping its comparable 1987 level by 4.2%. The data are seasonally adjusted, unless otherwise noted.

The year-to-year changes, however, overstate the rate at which paper and paperboard production is currently growing. Last year production grew at the rate of 5.4% per year from the first to the fourth quarters. The growth rate slowed significantly, to 2% per year, in the first two quarters of 1988. The seasonal factors themselves are changing as mills shift maintenance and repair time to the second quarter months.

This tempering of current growth has affected paperboard more than paper. From the fourth quarter of 1987 to the second quarter of 1988, paper production rose at a 3% per year rate while paperboard increased only 0.4% annually.

The chart at the bottom of this page shows the changing pattern of paper and paperboard production during the past eighteen months. If production follows its current trend for the rest of 1988, lower year-to-year growths will be recorded.

PAPER &amp; PAPERBOARD PRODUCTION: 1987-1988



In terms of year-to-year changes, the strongest growth among the paper grades in the first half of 1988 continued in the printing-writing grades, reflecting major increases in shipments to such important markets as periodicals, commercial printers and office reprographics. Exports also showed a large percentage gain, but the tonnages involved remain relatively small (see table on page 9).

Unbleached kraft and recycled paperboard continued to lead growth in total paperboard production, largely reflecting strength in domestic demand. Production of containerboard for domestic use increased 4.6% from the first half of 1987 to the first half of 1988. Fiber box shipments rose 4.4% in this period. However, as described earlier for paperboard, fiber box shipments also slowed perceptibly, to a 0.7% per year rate during the first half of 1988. During the past three months containerboard inventories rose 120,000 tons, bringing them to 5.9 weeks of supply.

#### SALES AND EARNINGS

Data reported by 25 paper and allied products companies for the first two quarters of 1988 show total sales up 17.8% and net profit after taxes up 59.4%. These companies account for about half the sales of all paper and allied products companies.

These gains brought the ratio of after-tax profits to sales for these companies to 8.3% in the second quarter of 1988. The current rate represents a recovery from the 4.1% profits/sales ratio realized in the 1980-1986 period. This may be compared to the 5.1% average of this ratio for all paper and allied products companies for 1960-1980 period and the 6.7% for the peak year 1979.

The table below presents the data for sales and earnings of these paper companies, together with similar data for four forest products companies with major paper capacity.

| SALES AND EARNINGS                     |                   |        |          |                   |                |        |      |      |
|----------------------------------------|-------------------|--------|----------|-------------------|----------------|--------|------|------|
|                                        | SALES             |        | EARNINGS |                   | EARNINGS/SALES |        |      |      |
|                                        | 1988              | CHANGE | 1988     | CHANGE            | 1988           | CHANGE | 1988 | 1987 |
|                                        | (MILLION DOLLARS) | 1987   | 88/87    | (MILLION DOLLARS) | 1987           |        | %    | %    |
| 25 PAPER AND ALLIED PRODUCTS COMPANIES |                   |        |          |                   |                |        |      |      |
| QTR I                                  | 14,548            | 12,083 | 20.4     | 1,114             | 645            | 72.6   | 7.6  | 5.3  |
| QTR II                                 | 15,180            | 13,154 | 15.4     | 1,262             | 845            | 49.3   | 8.3  | 6.4  |
| SUM                                    | 29,729            | 25,238 | 17.8     | 2,375             | 1,490          | 59.4   | 8.0  | 5.9  |
| 4 WOOD PRODUCTS COMPANIES              |                   |        |          |                   |                |        |      |      |
| QTR I                                  | 4,502             | 3,931  | 14.5     | 275               | 205            | 34.0   | 6.1  | 5.2  |
| QTR II                                 | 5,108             | 4,388  | 16.4     | 315               | 279            | 12.7   | 6.2  | 6.4  |
| SUM                                    | 9,609             | 8,320  | 15.5     | 589               | 484            | 21.7   | 6.1  | 5.8  |

## PAPER AND PAPERBOARD STATISTICS

PRODUCTION, SHIPMENTS AND ORDERS  
(Thousands of Short Tons)

|                                      | YEAR          |               | MARCH        | APRIL        | MAY          | JUNE         | Annual<br>Rate<br>Y-T-D<br>1988 | % Change<br>From same<br>Period<br>Last Year |
|--------------------------------------|---------------|---------------|--------------|--------------|--------------|--------------|---------------------------------|----------------------------------------------|
|                                      | 1986          | 1987          | 1988<br>(P)  | 1988<br>(P)  | 1988<br>(P)  | 1988<br>(P)  |                                 |                                              |
| <b>PAPER</b>                         |               |               |              |              |              |              |                                 |                                              |
| Newsprint - Production               | 5,630         | 5,842         | 510          | 497          | 514          | 490          | 5,977                           | 4.5                                          |
| - Shipments                          | 5,638         | 5,854         | 505          | 492          | 510          | 495          | 5,925                           | 3.3                                          |
| Printing & Writing Sum               | 19,668        | 20,780        | 1,944        | 1,816        | 1,780        | 1,735        | 21,749                          | 7.3                                          |
| Groundwood Paper - Shipments         | 1,540         | 1,485         | 139          | 127          | 135          | 123          | 1,560                           | 3.4                                          |
| - New Orders                         | 1,553         | 1,542         | 131          | 125          | 156          | 128          | 1,618                           | 4.4                                          |
| - Unfilled Orders                    | 124           | 181           | 196          | 194          | 209          | 221          | 221                             | 66.3                                         |
| Coated Papers - Shipments            | 6,263         | 6,860         | 653          | 609          | 600          | 599          | 7,382                           | 11.2                                         |
| - New Orders                         | 6,334         | 7,099         | 646          | 634          | 622          | 598          | 7,420                           | 6.7                                          |
| - Unfilled Orders                    | 469           | 734           | 704          | 723          | 724          | 733          | 733                             | 14.8                                         |
| Unctd Free Sheet - Shipments         | 10,410        | 10,977        | 1,020        | 947          | 921          | 899          | 11,298                          | 5.8                                          |
| - New Orders                         | 10,485        | 11,189        | 1,032        | 991          | 923          | 909          | 11,431                          | 6.8                                          |
| - Unfilled Orders                    | 587           | 777           | 776          | 812          | 785          | 812          | 812                             | 45.6                                         |
| Thin Papers - Shipments              | 271           | 251           | 19           | 20           | 18           | 18           | 235                             | -8.5                                         |
| Cotton Fiber Paper - Shipments       | 152           | 163           | 15           | 13           | 14           | 13           | 165                             | -1.3                                         |
| Bleached Bristols - Production RS    | 1,033         | 1,044         | 97           | 101          | 93           | 84           | 1,100                           | 8.7                                          |
| Tissue Paper - Production            | 5,095         | 5,301         | 474          | 444          | 463          | 450          | 5,427                           | 3.7                                          |
| Total Packaging & Other Paper        | 5,117         | 5,068         | 454          | 438          | 419          | 421          | 5,215                           | 2.1                                          |
| Unbl. Kraft Paper - Shipments        | 3,303         | 3,075         | 262          | 255          | 236          | 241          | 3,024                           | -3.1                                         |
| Other Paper - Production             | 1,814         | 1,993         | 192          | 183          | 183          | 180          | 2,191                           | 10.2                                         |
| <b>TOTAL PAPER-Production-Unadj.</b> | <b>35,510</b> | <b>36,990</b> | <b>3,382</b> | <b>3,195</b> | <b>3,176</b> | <b>3,096</b> | <b>38,368</b>                   | <b>5.6</b>                                   |
| -Production-S.A.                     |               |               | 3,194        | 3,205        | 3,216        | 3,226        | 38,396                          | 5.0                                          |
| <b>PAPERBOARD - PRODUCTION</b>       |               |               |              |              |              |              |                                 |                                              |
| Solid Wood Pulp Furnish              | 27,336        | 28,944        | 2,571        | 2,362        | 2,503        | 2,416        | 29,470                          | 3.1                                          |
| Total Unbl. Kraft Paperboard         | 17,689        | 18,913        | 1,696        | 1,538        | 1,653        | 1,583        | 19,346                          | 4.4                                          |
| Unbl. Kraft Linerboard (1)           | 16,402        | 17,602        | 1,575        | 1,434        | 1,543        | 1,477        | 18,043                          | 4.7                                          |
| Production for Export                | 2,246         | 2,318         | 225          | 175          | 183          | 191          | 2,395                           | 4.7                                          |
| Other Unbl. Kraft Paperboard         | 1,287         | 1,232         | 121          | 104          | 110          | 106          | 1,303                           | 0.8                                          |
| Semichemical Paperboard              | 5,376         | 5,600         | 492          | 447          | 491          | 466          | 5,677                           | 1.4                                          |
| Production for Export                | 213           | 189           | 15           | 10           | 10           | 9            | 130                             | -40.4                                        |
| Solid Bleached Paperboard RS         | 4,222         | 4,420         | 383          | 377          | 360          | 366          | 4,447                           | 0.4                                          |
| Production for Export                | 569           | 619           | 53           | 52           | 45           | 53           | 605                             | -5.7                                         |
| Recycled Paperboard                  | 8,092         | 8,506         | 771          | 754          | 761          | 734          | 8,964                           | 6.1                                          |
| Production for Export                | 70            | 75            | 7            | 6            | 7            | 6            | 75                              | 44.4                                         |
| <b>TOTAL PAPERBOARD-Prod.-Unadj.</b> | <b>35,379</b> | <b>37,439</b> | <b>3,342</b> | <b>3,116</b> | <b>3,264</b> | <b>3,150</b> | <b>38,434</b>                   | <b>3.9</b>                                   |
| - Containerboard Prod. (Dom. Use)    | 21,426        | 23,016        | 2,035        | 1,891        | 2,043        | 1,927        | 23,543                          | 4.6                                          |
| - Boxboard Prod. (Dom. Use) (2)      | 5,863         | 6,026         | 539          | 529          | 506          | 512          | 6,253                           | 3.3                                          |
| - All Other P'bd Prod. (D.U.) (2)    | 4,992         | 5,196         | 468          | 453          | 470          | 453          | 5,433                           | 3.9                                          |
| - Total Paperbd Prod. for Export     | 3,097         | 3,201         | 301          | 243          | 245          | 250          | 3,205                           | 0.2                                          |
| <b>TOTAL PAPERBOARD PROD. - S.A.</b> |               |               | <b>3,177</b> | <b>3,178</b> | <b>3,180</b> | <b>3,181</b> | <b>38,129</b>                   | <b>3.3</b>                                   |
| <b>TOTAL PAPER AND PAPERBOARD</b>    |               |               |              |              |              |              |                                 |                                              |
| Production - Unadj. (R)              | 70,889        | 74,429        | 6,724        | 6,311        | 6,441        | 6,246        | 76,802                          | 4.7                                          |
| Production - S.A.                    |               |               | 6,371        | 6,383        | 6,395        | 6,408        | 76,525                          | 4.2                                          |

(1) Includes all exports of kraft paperboard.

R - Revised

P - Preliminary

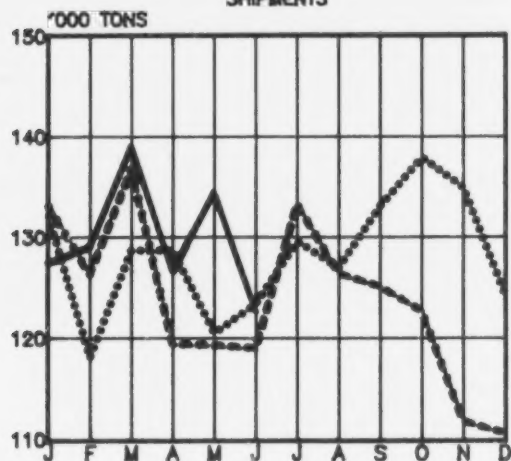
S.A. - Seasonally Adjusted

(2) Data for unbl. kraft folding boxboard incl. in All Other P'bd.

RS - Revised Series

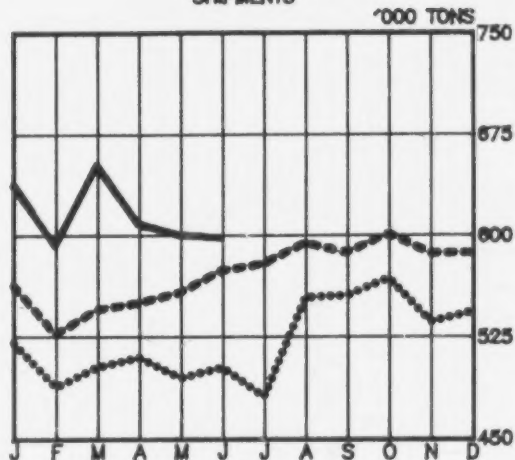
## GROUNDWOOD PAPER, UNCOATED

SHIPMENTS



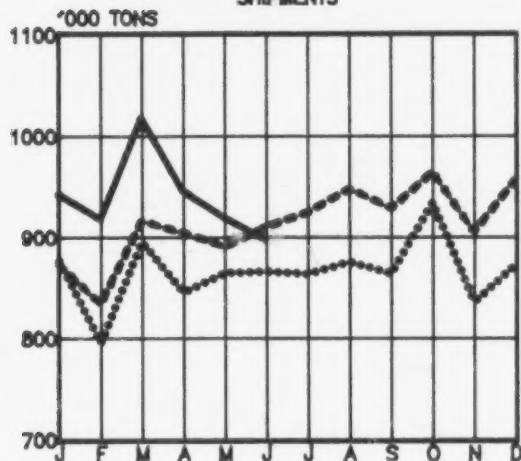
## COATED PAPER

SHIPMENTS



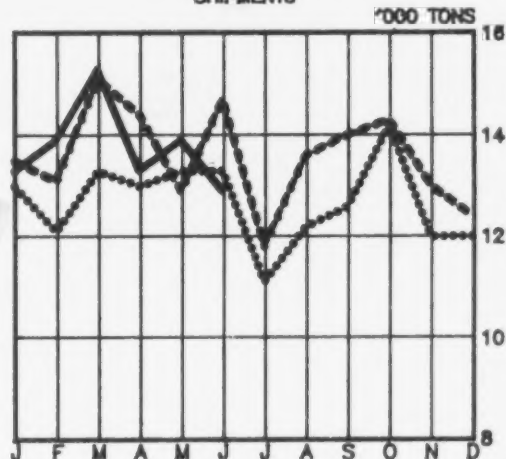
## UNCOATED FREE SHEET PAPERS

SHIPMENTS

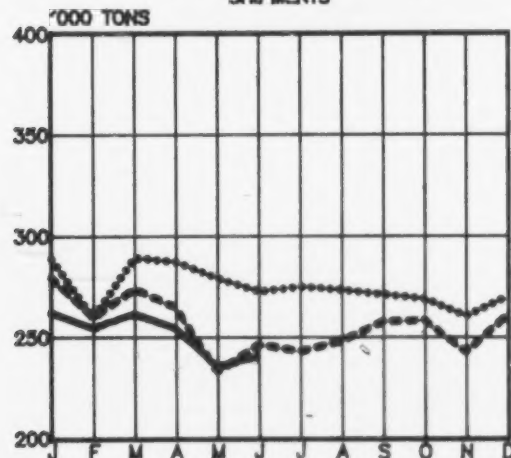


## COTTON FIBER PAPER

SHIPMENTS

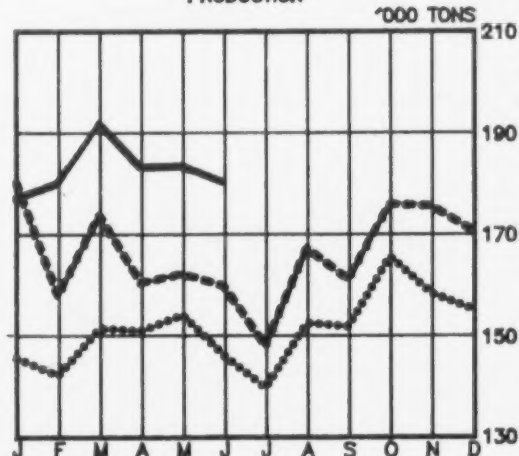
UNBLEACHED KRAFT PACKAGING  
AND INDUSTRIAL CONVERTING PAPER

SHIPMENTS



## OTHER PAPER

PRODUCTION



1986 ..... 1987 ..... 1988 ———

# WOOD PULP STATISTICS

(Thousands of Tons)

|                               |              |        | (Thousands of Tons) |          |       |       | Annual | % Change  |        |
|-------------------------------|--------------|--------|---------------------|----------|-------|-------|--------|-----------|--------|
|                               |              |        | YEAR                | FEBRUARY | MARCH | APRIL | Rate   | from same |        |
|                               |              |        | 1986                | 1987     | 1988  | 1988  | Y-T-D  | Period    |        |
|                               |              |        | 1986                | 1987     | 1988  | 1988  | 1988   | Last Year |        |
| 25-Jul-88<br>12:19 PM         |              |        |                     |          |       |       |        |           |        |
| TOTAL WOOD PULP               |              |        |                     |          |       | R     | P      |           |        |
| Total Wood Pulp               | - Production | 57,005 | 59,552              | 4,917    | 5,222 | 5,004 | 4,991  | 60,980    | 3.9    |
|                               | - Imports    | 4,582  | 4,850               | 429      | 432   | 428   | 415    | 5,025     | 2.3    |
|                               | - Exports    | 4,458  | 4,889               | 444      | 491   | 453   | 433    | 5,306     | 15.4   |
|                               | - New Supply | 57,129 | 59,513              | 4,902    | 5,163 | 4,979 | 4,973  | 60,699    | 2.9    |
| Dissolving Pulp               | - Production | 1,258  | 1,312               | 116      | 109   | 105   | 99     | 1,266     | 0.1    |
|                               | - Imports    | 255    | 198                 | 21       | 26    | 21    | 16     | 249       | 16.6   |
|                               | - Exports    | 711    | 752                 | 41       | 78    | 81    | 61     | 789       | 5.3    |
|                               | - New Supply | 801    | 757                 | 95       | 57    | 44    | 54     | 726       | -0.4   |
| Paper Grades                  | - Production | 46,081 | 48,293              | 3,981    | 4,259 | 4,037 | 4,011  | 49,373    | 3.7    |
| Chemical Pulp                 | - Imports    | 4,220  | 4,456               | 374      | 378   | 370   | 360    | 4,407     | -3.1   |
|                               | - Exports    | 3,689  | 4,111               | 401      | 402   | 365   | 368    | 4,461     | 16.7   |
|                               | - New Supply | 46,612 | 48,637              | 3,954    | 4,235 | 4,042 | 4,003  | 49,319    | 2.0    |
| Groundwood and Thermo-Mech.   | - Production | 5,476  | 5,702               | 471      | 495   | 509   | 507    | 5,994     | 8.3    |
|                               | - Imports    | 108    | 197                 | 34       | 28    | 37    | 39     | 378       | 150.4  |
|                               | - Exports    | 59     | 26                  | 2        | 11    | 6     | 3      | 57        | 112.8  |
|                               | - New Supply | 5,525  | 5,872               | 503      | 512   | 539   | 543    | 6,307     | 11.5   |
| Semi-Chemical                 | - Production | 4,191  | 4,246               | 350      | 360   | 354   | 373    | 4,347     | 1.9    |
|                               | - Imports    |        |                     |          |       |       |        |           |        |
|                               | - Exports    |        |                     |          |       |       |        |           |        |
|                               | - New Supply | 4,191  | 4,246               | 350      | 360   | 354   | 373    | 4,347     | 1.9    |
| MARKET WOOD PULP              |              |        |                     |          |       |       |        |           |        |
| Total Market Wood Pulp        | - Production | 7,572  | 8,114               | 686      | 728   | 676   | 642    | 8,286     | 6.2    |
|                               | - Imports    | 3,122  | 3,235               | 289      | 296   | 298   | 260    | 3,394     | 9.6    |
|                               | - Exports    | 4,470  | 4,808               | 400      | 477   | 392   | 379    | 4,824     | 7.8    |
|                               | - New Supply | 6,224  | 6,541               | 574      | 547   | 581   | 523    | 6,855     | 6.7    |
| Dissolving Pulp               | - Production | 1,251  | 1,308               | 116      | 109   | 104   | 99     | 1,265     | 0.5    |
|                               | - Imports    | 212    | 154                 | 19       | 18    | 20    | 13     | 213       | 33.5   |
|                               | - Exports    | 718    | 775                 | 45       | 85    | 60    | 59     | 740       | 1.3    |
|                               | - New Supply | 745    | 687                 | 90       | 42    | 62    | 53     | 738       | 7.2    |
| Paper Grades                  | - Production | 6,315  | 6,806               | 570      | 619   | 571   | 543    | 7,021     | 7.3    |
| Chemical Pulp                 | - Imports    | 2,831  | 2,975               | 246      | 261   | 261   | 238    | 3,002     | 5.6    |
|                               | - Exports    | 3,752  | 4,045               | 355      | 391   | 330   | 320    | 4,085     | 8.8    |
|                               | - New Supply | 5,394  | 5,736               | 460      | 489   | 502   | 461    | 5,938     | 5.5    |
| Groundwood Pulp and All Other | - Production | 5      | 0                   | 0        | 0     | 0     | 0      | 0         | -100.0 |
|                               | - Imports    | 79     | 106                 | 24       | 16    | 18    | 9      | 180       | 91.7   |
|                               | - Exports    | 0      | -13                 | 0        | 0     | (0)   | 0      | 0         | 0.0    |
|                               | - New Supply | 85     | 119                 | 24       | 16    | 17    | 9      | 179       | 70.6   |

SOURCES: Total Wood Pulp Production & Market Wood Pulp Production, Imports & Exports - Pulp Division, Pulp, Materials and Technology Group, API. Total Wood Pulp Imports & Exports - Department of Commerce.

## FIBROUS RAW MATERIALS

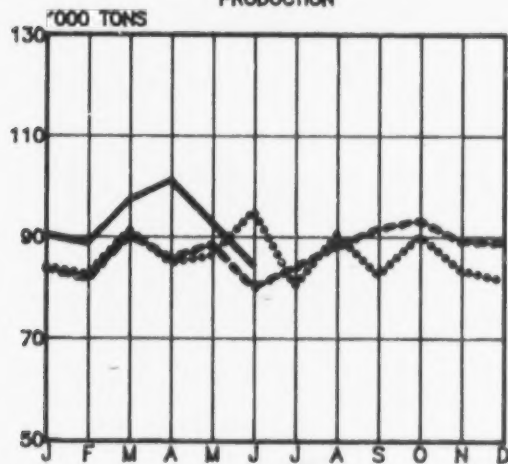
(Thousands of tons)

| (Thousands of tons)                                           |        |        |          |       |       |       |        | Annual    | % Change |
|---------------------------------------------------------------|--------|--------|----------|-------|-------|-------|--------|-----------|----------|
|                                                               | YEAR   |        | FEBRUARY | MARCH | APRIL | MAY   | Rate   | from same |          |
|                                                               | 1986   | 1987   | 1988     | 1988  | 1988  | 1988  | Y-T-D  | Period    |          |
|                                                               |        |        |          |       |       |       | 1988   | Last Year |          |
| CONSUMPTION AT PAPER & PAPERBOARD MILLS                       |        |        |          |       |       |       |        |           |          |
| Total                                                         | 74,345 | 77,784 | 6,453    | 6,866 | 6,545 | 6,652 | 79,921 | 4.8       |          |
| Total Wood Pulp                                               | 57,061 | 59,488 | 4,924    | 5,205 | 5,004 | 5,042 | 60,971 | 3.5       |          |
| Waste Paper                                                   | 17,285 | 18,296 | 1,529    | 1,660 | 1,541 | 1,611 | 18,951 | 9.3       |          |
| INVENTORIES                                                   |        |        |          |       |       |       |        |           |          |
| Chemical Paper Grade Market Pulp                              |        |        |          |       |       |       |        |           |          |
| Producers' Own-Use Inventories                                | 174    | 170    | 165      | 169   | 169   | 159   | 159    | -12.5     |          |
| Producers' Market Inventories                                 | 284    | 224    | 265      | 237   | 256   | 243   | 243    | -15.1     |          |
| Consumers' Purchased Inventories                              | 496    | 529    | 503      | 532   | 532   | 513   | 513    | 0.9       |          |
| Waste Paper at Paper & Bd. Mills                              | 838    | 920    | 871      | 926   | 937   | 897   | 897    | 11.2      |          |
| Days of Supply at Pulp Mills of Chemical Paper Grade Mkt Pulp | 16     | 12     | 13       | 12    | 13    | 13    | 13     | -13.3     |          |

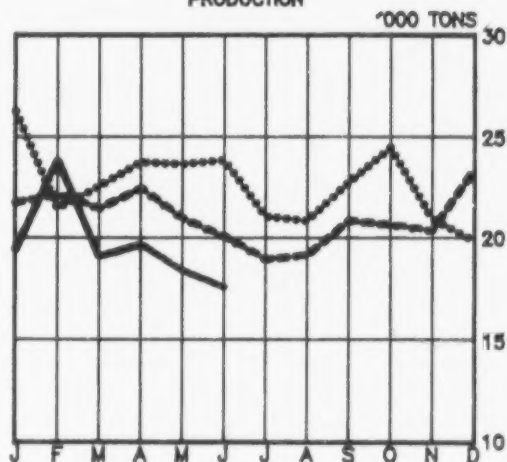
SOURCES: Wood Pulp Data, Pulp Division, Pulp, Materials and Technology Group, API. Waste Paper Data, Paper Recycling Committee, API. \* Includes all grades of wood pulp.

P - Preliminary; R - Revised; (0) - Indicates zero to five-hundred short tons

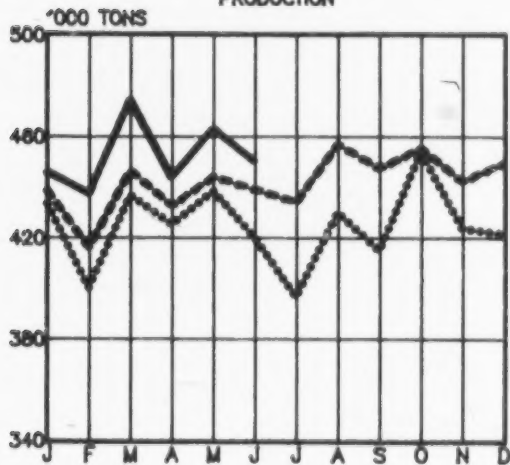
BLEACHED BRISTOLS  
PRODUCTION



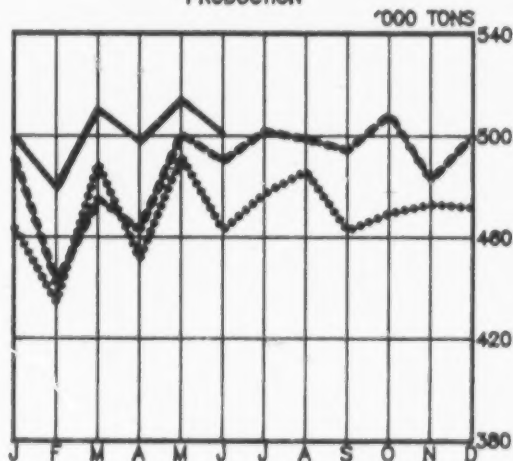
THIN PAPER  
PRODUCTION



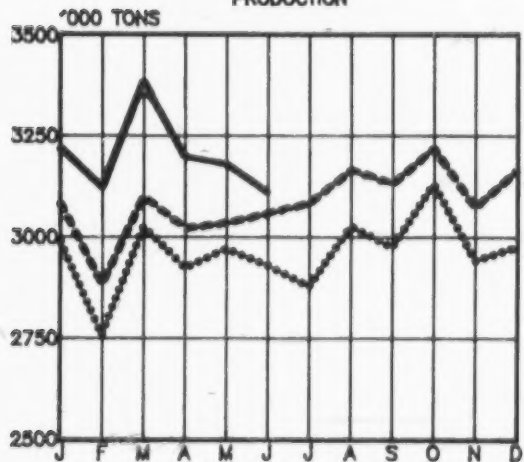
TISSUE PAPER  
PRODUCTION



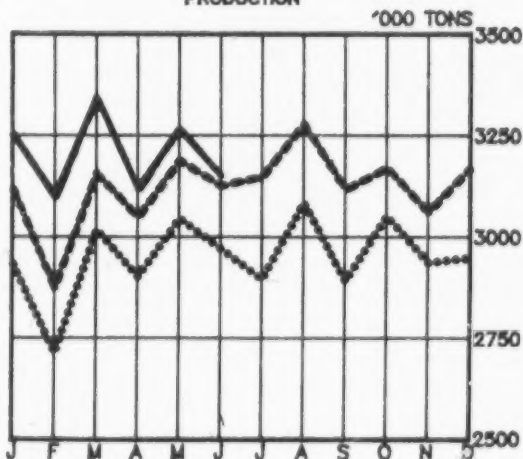
NEWSPRINT  
PRODUCTION



TOTAL PAPER  
PRODUCTION



TOTAL PAPERBOARD  
PRODUCTION



1986 ..... 1987

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F I B E R O U S R A W M A T E R I A L S  
(Thousands of Standard (128 cubic foot) Cords)

|                 |                  | YEAR   | 1987   | FEBRUARY | MARCH | APRIL | MAY   | Annual | % Change  |
|-----------------|------------------|--------|--------|----------|-------|-------|-------|--------|-----------|
|                 |                  | 1986   | 1987   | 1988     | 1988  | 1988  | 1988  | Rate   | From Same |
|                 |                  |        |        |          |       |       |       | Y-T-D  | Period    |
|                 |                  |        |        |          |       |       |       | 1988   | Last Year |
| <b>PULPWOOD</b> |                  |        |        |          |       |       |       |        |           |
| Total U.S.      | - Total Receipts | 98,943 | 94,312 | 7,924    | 8,345 | 7,911 | 7,611 | 94,867 | 1.5       |
|                 | - Total Consumpt | 91,434 | 91,946 | 7,743    | 8,249 | 8,137 | 7,658 | 96,885 | 2.8       |
|                 | - Residues *     | 32,755 | 32,893 | 7,756    | 2,924 | 2,925 | 2,753 | 33,461 | 1.2       |
|                 | - Inventories    | 4,794  | 5,096  | 4,777    | 4,942 | 4,642 | 4,420 | 4,420  | -3.0      |
| So. Atlantic    | - Total Receipts | 29,518 | 31,147 | 2,561    | 2,807 | 2,663 | 2,412 | 31,193 | 3.0       |
|                 | - Total Consumpt | 28,425 | 30,915 | 2,521    | 2,788 | 2,740 | 2,458 | 31,447 | 3.3       |
|                 | - Residues *     | 9,343  | 9,553  | 807      | 903   | 865   | 785   | 10,880 | 13.4      |
|                 | - Inventories    | 994    | 1,211  | 1,070    | 1,155 | 1,090 | 1,041 | 1,041  | 9.1       |
| Northeast       | - Total Receipts | 7,277  | 6,941  | 686      | 621   | 456   | 541   | 6,794  | -5.0      |
|                 | - Total Consumpt | 7,227  | 7,139  | 582      | 645   | 660   | 621   | 7,565  | 2.8       |
|                 | - Residues *     | 1,419  | 1,543  | 129      | 158   | 144   | 134   | 1,619  | 4.9       |
|                 | - Inventories    | 484    | 594    | 647      | 657   | 491   | 402   | 402    | 8.8       |
| South Central   | - Total Receipts | 31,790 | 33,658 | 2,771    | 3,005 | 2,799 | 2,716 | 33,427 | 0.8       |
|                 | - Total Consumpt | 32,113 | 33,859 | 2,742    | 2,981 | 2,754 | 2,699 | 33,586 | 2.9       |
|                 | - Residues *     | 9,792  | 9,992  | 836      | 887   | 806   | 802   | 9,782  | -4.7      |
|                 | - Inventories    | 926    | 1,294  | 1,085    | 1,070 | 1,067 | 1,018 | 1,018  | -4.1      |
| North Central   | - Total Receipts | 6,571  | 6,552  | 666      | 589   | 482   | 563   | 7,140  | 13.1      |
|                 | - Total Consumpt | 6,738  | 6,764  | 557      | 595   | 588   | 606   | 7,195  | 7.1       |
|                 | - Residues *     | 1,042  | 1,263  | 97       | 108   | 102   | 105   | 1,390  | 37.5      |
|                 | - Inventories    | 892    | 830    | 989      | 1,000 | 891   | 818   | 818    | 1.1       |
| West            | - Total Receipts | 15,792 | 16,022 | 1,320    | 1,323 | 1,511 | 1,379 | 16,313 | 0.2       |
|                 | - Total Consumpt | 15,939 | 16,099 | 1,341    | 1,320 | 1,395 | 1,274 | 16,212 | 0.0       |
|                 | - Residues *     | 11,159 | 10,548 | 857      | 868   | 1,008 | 927   | 10,572 | -1.3      |
|                 | - Inventories    | 1,498  | 1,167  | 986      | 1,060 | 1,103 | 1,141 | 1,141  | -13.6     |

\* - Consumption of Residues in Cord Equivalents.

SOURCE: American Pulpwood Association

25-Jul-88

U N I T E D S T A T E S T R A D E W I T H C A N A D A

IMPORTS FROM CANADA

|                                                          |                              | YEAR       | 1987      | APRIL   | APRIL   | MAY     | MAY     | Annual     | % Change  |
|----------------------------------------------------------|------------------------------|------------|-----------|---------|---------|---------|---------|------------|-----------|
|                                                          |                              | Tons       | (000's)   | Tons    | (000's) | Tons    | (000's) | Rate       | From same |
|                                                          |                              |            |           |         |         |         |         | Y-T-D      | Period    |
|                                                          |                              |            |           |         |         |         |         | 1988       | Last Year |
| Pulpwood, Roundwood                                      | (in cords of 128 cubic feet) | 15,382     | 1,736     | 6,111   | 746     | 1,875   | 524     | 35,882     | 2429.8    |
| Pulpwood chips                                           |                              | 487,147    | 15,250    | 79,216  | 2,112   | 64,778  | 1,051   | 815,012    | 99.8      |
| Wood Pulp, Total                                         |                              | 4,320,114  | 1,842,819 | 347,775 | 176,251 | 362,068 | 185,984 | 4,290,737  | -2.9      |
| Waste Fibrous Materials, Total                           |                              | 186,286    | 16,423    | 10,161  | 3,699   | 21,998  | 4,692   | 250,016    | 29.4      |
| Paper, Board & Products, Total                           |                              | 10,588,047 | 5,093,903 | 865,925 | 467,317 | 929,283 | 583,556 | 18,829,378 | 1.7       |
| Paper, Paperboard, Wet Machine Bd. & Constr. Paper & Bd. |                              | 10,441,472 | 4,845,664 | 854,257 | 446,127 | 917,577 | 482,849 | 18,681,789 | 1.7       |
| Paper, Paperboard & Products                             |                              | 10,365,412 | 5,027,943 | 850,227 | 462,253 | 910,264 | 496,924 | 18,633,609 | 2.1       |
| Paper & Paperboard, Only                                 |                              | 10,278,838 | 4,779,702 | 838,559 | 441,063 | 898,558 | 476,217 | 18,486,020 | 2.2       |
| Paper, Total                                             |                              | 9,700,198  | 4,698,148 | 810,196 | 433,883 | 875,987 | 468,034 | 18,222,278 | 2.1       |
| Newsprint                                                |                              | 8,111,309  | 3,956,147 | 686,739 | 353,992 | 741,038 | 384,392 | 8,633,062  | -0.6      |
| Printing, Writing & Rel. Pap.                            |                              | 1,111,641  | 601,978   | 108,247 | 66,400  | 111,045 | 68,668  | 1,292,716  | 21.6      |
| Pack. & Ind. Conv. Paper                                 |                              | 215,514    | 102,986   | 19,141  | 10,151  | 18,507  | 10,195  | 248,143    | 5.3       |
| Special Industrial Paper                                 |                              | 5,478      | 9,844     | 287     | 486     | 503     | 998     | 4,616      | -27.4     |
| Tissue Paper                                             |                              | 40,257     | 27,194    | 3,862   | 2,934   | 4,894   | 3,789   | 51,742     | 37.5      |
| Paperboard, Total                                        |                              | 257,639    | 81,554    | 20,364  | 7,180   | 22,571  | 8,183   | 263,742    | 6.9       |
| Convtd Paper/Paperbd Products                            |                              | 146,575    | 248,241   | 11,668  | 21,190  | 11,796  | 20,707  | 147,589    | -3.9      |
| Wet Machine Board                                        |                              | 2,890      | 1,977     | 230     | 166     | 238     | 172     | 3,179      | 8.2       |
| Construction Paper & Board                               |                              | 219,744    | 63,983    | 15,468  | 4,898   | 18,781  | 6,460   | 192,590    | -17.3     |

EXPORTS TO CANADA

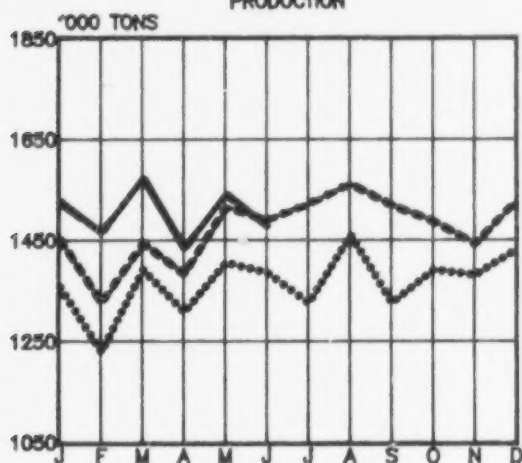
|                                                          |                              |         |         |         |        |         |        |           |       |
|----------------------------------------------------------|------------------------------|---------|---------|---------|--------|---------|--------|-----------|-------|
| Pulpwood, Roundwood                                      | (in cords of 128 cubic feet) | 12,617  | 770     | 3,444   | 172    | 2,740   | 159    | 18,502    | 341.5 |
| Pulpwood chips                                           |                              | 61,575  | 4,814   | 4,519   | 225    | 7,921   | 438    | 52,466    | -39.3 |
| Wood Pulp, Total                                         |                              | 198,921 | 75,956  | 33,737  | 9,112  | 18,881  | 6,927  | 269,736   | 35.4  |
| Cotton Pulp & Other Pulp                                 |                              | 58,288  | 14,775  | 5,741   | 1,683  | 7,784   | 2,285  | 87,367    | 113.3 |
| Waste Paper                                              |                              | 286,898 | 30,592  | 27,736  | 3,249  | 30,118  | 3,509  | 307,354   | 21.6  |
| Paper, Board & Products, Total                           |                              | 957,434 | 598,429 | 100,852 | 61,183 | 101,072 | 63,854 | 1,368,054 | 57.1  |
| Paper, Paperboard, Wet Machine Bd. & Constr. Paper & Bd. |                              | 712,494 | 398,256 | 76,584  | 41,147 | 69,251  | 40,251 | 1,081,257 | 62.5  |
| Paper, Paperboard & Products                             |                              | 920,755 | 581,481 | 97,724  | 59,702 | 98,534  | 61,765 | 1,333,834 | 59.5  |
| Paper & Paperboard, Only                                 |                              | 675,815 | 381,308 | 73,557  | 39,746 | 66,714  | 38,963 | 1,047,037 | 66.0  |
| Paper, Total                                             |                              | 297,505 | 250,807 | 32,620  | 25,870 | 30,406  | 25,986 | 376,392   | 27.2  |
| Newsprint                                                |                              | 4,525   | 3,720   | 297     | 280    | 270     | 231    | 3,325     | -32.3 |
| Printing, Writing & Rel. Pap.                            |                              | 151,716 | 125,667 | 15,265  | 14,175 | 14,974  | 13,979 | 177,745   | 26.1  |
| Pack. & Ind. Conv. Paper                                 |                              | 25,826  | 17,841  | 4,399   | 2,982  | 2,893   | 2,211  | 42,462    | 65.8  |
| Special Industrial Paper                                 |                              | 110,107 | 97,080  | 12,280  | 7,803  | 11,731  | 9,129  | 147,464   | 21.9  |
| Tissue Paper                                             |                              | 5,411   | 6,490   | 379     | 622    | 538     | 435    | 5,394     | 51.4  |
| Paperboard, Total                                        |                              | 378,230 | 130,501 | 40,937  | 13,877 | 36,308  | 12,977 | 670,645   | 100.3 |
| Convtd Paper/Paperbd Products                            |                              | 244,940 | 200,173 | 24,167  | 19,956 | 31,021  | 22,802 | 286,797   | 39.8  |
| Wet Machine Board                                        |                              | 10,212  | 4,828   | 429     | 165    | 430     | 165    | 6,502     | -44.8 |
| Construction Paper & Board                               |                              | 26,467  | 12,120  | 2,698   | 1,236  | 2,107   | 1,123  | 27,718    | 21.8  |

SOURCE: Bureau of Census, Department of Commerce.

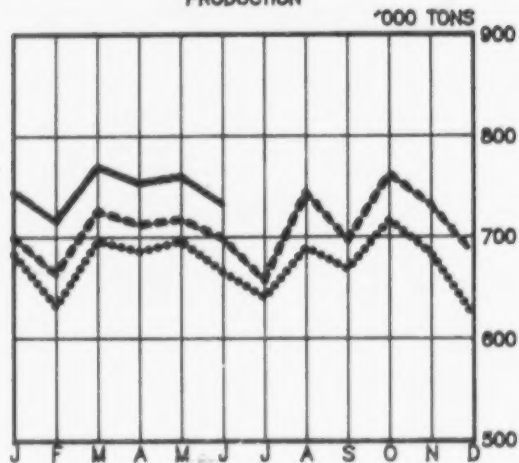
E - Estimate of tonnage based on square foot data

25-Jul-88

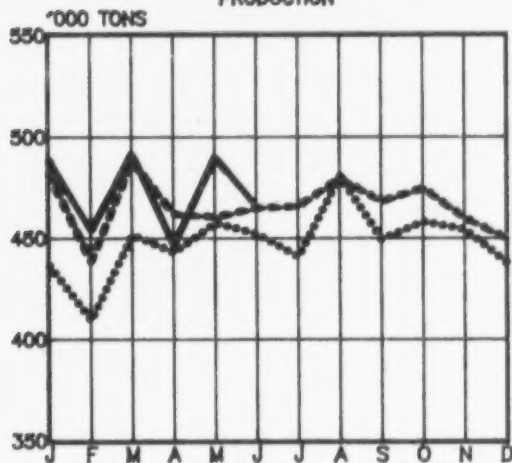
# UNBLEACHED KRAFT LINERBOARD PRODUCTION



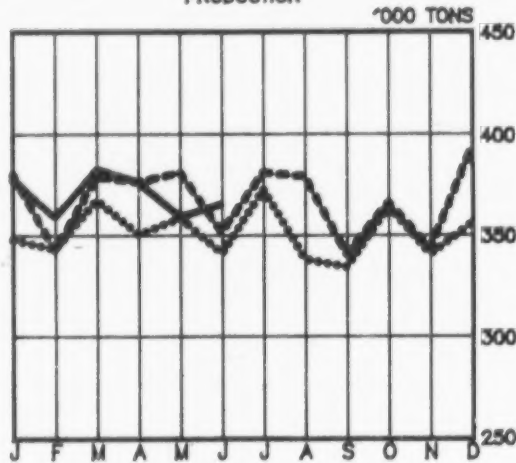
# RECYCLED PAPERBOARD PRODUCTION



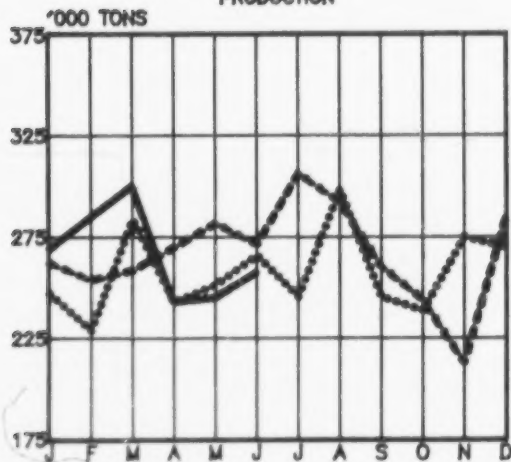
# SEMICHEMICAL PAPERBOARD PRODUCTION



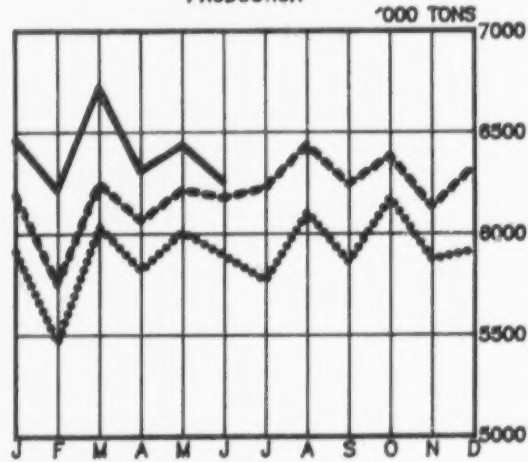
# SOLID BLEACHED PAPERBOARD PRODUCTION



# PAPERBOARD FOR EXPORT PRODUCTION



# TOTAL PAPER AND PAPERBOARD PRODUCTION



1986 ..... 1987

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## PULP, PAPER AND PAPERBOARD IMPORTS AND EXPORTS DATA

Page 9

## IMPORTS

|                                                               | YEAR 1987  |           | 1988      |         | 1988      |         | (1)                       | % Change                   |
|---------------------------------------------------------------|------------|-----------|-----------|---------|-----------|---------|---------------------------|----------------------------|
|                                                               | Tons       | \$000     | Tons      | \$000   | Tons      | \$000   | Annual Rate YTD 1988 Tons | from same Period Last year |
| Pulpwood Roundwood (cords)                                    | 15,432     | 1,746     | 6,111     | 746     | 1,875     | 524     | 15,882                    | 222.4                      |
| Pulpwood Chips                                                | 525,629    | 15,476    | 61,138    | 2,151   | 65,588    | 3,888   | 846,848                   | 69.6                       |
| Total All Imports                                             | 17,891,172 | 9,043,600 | 1,516,161 | 882,898 | 1,561,719 | 983,183 | 18,498,438                | 3.7                        |
| Wood Pulp Total                                               | 4,850,238  | 2,069,389 | 427,754   | 217,783 | 414,958   | 215,093 | 5,024,561                 | 2.3                        |
| Waste Paper                                                   | 127,398    | 19,231    | 13,186    | 2,023   | 14,371    | 2,247   | 176,995                   | 58.5                       |
| Other Fibrous Materials                                       | 76,491     | 27,287    | 7,084     | 2,570   | 9,400     | 3,291   | 94,830                    | -1.2                       |
| Paper Board & Products Total                                  | 12,837,946 | 6,927,693 | 1,080,136 | 668,515 | 1,122,990 | 682,553 | 13,194,844                | 3.8                        |
| Paper Paperboard Wet Machine Bd. & Construction Paper & Board | 12,435,486 | 5,995,122 | 1,856,819 | 575,867 | 1,889,811 | 598,527 | 12,796,819                | 4.2                        |
| Paper Ppbd & Prds ex CnstsHMB                                 | 12,527,598 | 6,820,736 | 1,063,099 | 651,810 | 1,095,059 | 672,676 | 12,925,813                | 4.1                        |
| Paper & Paperboard Only                                       | 12,126,039 | 5,896,165 | 1,030,990 | 567,169 | 1,061,800 | 588,650 | 12,506,988                | 4.5                        |
| Paper Total                                                   | 11,765,208 | 5,768,703 | 1,004,125 | 557,157 | 1,028,845 | 575,692 | 12,162,061                | 5.1                        |
| Newsprint                                                     | 8,986,548  | 4,121,327 | 725,304   | 371,407 | 766,207   | 396,627 | 8,943,552                 | -0.6                       |
| Printing & Writing                                            | 2,410,216  | 1,412,458 | 247,090   | 163,437 | 232,052   | 156,110 | 2,822,591                 | 27.7                       |
| Uncoated Groundwood                                           | 1,269,774  | 654,767   | 131,388   | 77,620  | 115,796   | 68,773  | 1,457,571                 | 22.7                       |
| Coated Print & Impreg. Pap.                                   | 674,531    | 467,865   | 68,037    | 52,906  | 63,204    | 58,184  | 745,881                   | 12.7                       |
| Uncoated Free Sheet                                           | 417,395    | 249,943   | 43,263    | 29,181  | 45,419    | 38,894  | 555,501                   | 37.6                       |
| Uncoated Book                                                 | 210,624    | 119,775   | 16,085    | 10,442  | 19,983    | 12,888  | 229,571                   | 8.7                        |
| Writing and Similar Paper                                     | 208,771    | 130,168   | 27,178    | 18,739  | 25,436    | 18,007  | 325,938                   | 69.3                       |
| Thin (except Cigarette)                                       | 47,567     | 30,831    | 4,367     | 3,678   | 7,569     | 6,182   | 62,669                    | 14.6                       |
| Bristols                                                      | 950        | 1,952     | 43        | 52      | 65        | 85      | 868                       | -6.6                       |
| Total Pkg. & Other Paper                                      | 310,324    | 191,620   | 25,640    | 17,376  | 25,625    | 19,436  | 325,995                   | 3.4                        |
| Unbleached Kraft Paper                                        | 168,420    | 69,828    | 14,133    | 6,431   | 12,354    | 5,961   | 169,429                   | 0.1                        |
| Other Pkg. & Indust. Paper                                    | 141,904    | 121,792   | 11,507    | 10,945  | 13,271    | 10,475  | 156,565                   | 7.3                        |
| Tissue                                                        | 58,121     | 43,299    | 6,003     | 4,857   | 4,961     | 3,910   | 69,924                    | 23.8                       |
| Paperboard, Total                                             | 368,831    | 127,461   | 26,873    | 10,813  | 33,033    | 12,958  | 344,927                   | -11.4                      |
| Test or Containerboard                                        | 80,981     | 29,352    | 5,362     | 2,338   | 5,996     | 2,726   | 72,198                    | -15.5                      |
| Semi-Chemical Corrugating                                     | 128,636    | 33,898    | 11,924    | 3,596   | 14,789    | 4,669   | 152,981                   | 28.0                       |
| Other Paperboard                                              | 151,214    | 64,211    | 9,588     | 4,878   | 12,251    | 5,563   | 119,836                   | -35.8                      |
| Convtd Papers&Paperbd Products                                | 401,559    | 932,571   | 32,102    | 84,648  | 33,179    | 84,025  | 398,025                   | -7.1                       |
| Paper Products, Total                                         | 368,179    | 866,121   | 28,973    | 78,841  | 29,779    | 78,478  | 361,513                   | -7.9                       |
| Paperboard Products, Total                                    | 33,388     | 66,450    | 3,129     | 5,887   | 3,418     | 5,548   | 36,511                    | 1.3                        |
| Wet machine Board                                             | 3,463      | 2,638     | 311       | 386     | 347       | 296     | 4,414                     | 24.8                       |
| Construction Paper & Board                                    | 305,985    | 96,320    | 24,726    | 8,312   | 27,583    | 9,581   | 285,417                   | -9.9                       |
| Notes                                                         |            |           |           |         |           |         |                           |                            |
| Other: No Weight Avail. (\$000)                               |            | 281,453   |           | 13,324  |           | 13,657  | 173,330                   | -18.9                      |
| Total Imports Incl. Other(\$000)                              |            | 9,245,053 |           | 896,214 |           | 916,841 | 10,624,604                | 18.5                       |

## EXPORTS

|                                                                 | YEAR 1987  |           | 1988      |         | 1988      |         | (1)                       | % Change                   |
|-----------------------------------------------------------------|------------|-----------|-----------|---------|-----------|---------|---------------------------|----------------------------|
|                                                                 | Tons       | \$000     | Tons      | \$000   | Tons      | \$000   | Annual Rate YTD 1988 Tons | from same Period Last year |
| Pulpwood Roundwood (cords)                                      | 16,178     | 913       | 3,444     | 172     | 2,740     | 159     | 28,522                    | 193.8                      |
| Pulpwood Chips                                                  | 2,546,467  | 188,459   | 221,251   | 17,786  | 386,816   | 38,828  | 3,061,857                 | 41.8                       |
| Total All Exports                                               | 14,797,437 | 6,007,818 | 1,397,422 | 612,621 | 1,386,675 | 688,723 | 16,782,389                | 13.8                       |
| Wood Pulp Total                                                 | 4,889,331  | 2,259,377 | 452,955   | 232,036 | 432,655   | 224,839 | 5,306,779                 | 15.4                       |
| Cotton Pulp and Other Pulp                                      | 182,001    | 91,365    | 15,112    | 8,704   | 16,949    | 9,859   | 228,518                   | 43.1                       |
| Waste and Old Paper                                             | 4,422,139  | 553,348   | 423,799   | 54,060  | 472,871   | 58,490  | 5,302,210                 | 27.2                       |
| Paper, Board & Products, Total                                  | 5,303,966  | 3,103,728 | 505,556   | 317,821 | 464,200   | 307,535 | 5,963,490                 | 6.9                        |
| Paper, Paperboard, Wet Machine Bd. & Construction Paper & Board | 4,578,770  | 2,280,329 | 439,491   | 233,493 | 385,878   | 213,848 | 5,149,859                 | 15.9                       |
| Paper, Ppbd & Prod ex CnstsHMB                                  | 5,196,613  | 3,044,586 | 495,352   | 312,572 | 451,566   | 301,338 | 5,834,649                 | 16.8                       |
| Paper & Paperboard, Only                                        | 4,471,418  | 2,221,107 | 429,207   | 228,245 | 373,245   | 207,435 | 5,020,218                 | 15.7                       |
| Paper, Total                                                    | 921,397    | 776,181   | 94,098    | 81,653  | 93,466    | 80,356  | 1,073,918                 | 19.6                       |
| Newsprint                                                       | 339,773    | 210,893   | 31,401    | 22,223  | 25,073    | 18,805  | 330,456                   | -8.0                       |
| Printing & Writing                                              | 249,092    | 242,639   | 24,924    | 26,380  | 26,059    | 27,765  | 293,393                   | 35.2                       |
| Uncoated Groundwood                                             | 55,841     | 39,750    | 5,606     | 4,532   | 5,917     | 4,980   | 68,058                    | 64.5                       |
| Clay Coated Paper                                               | 100,839    | 72,145    | 9,345     | 7,567   | 7,949     | 6,350   | 108,553                   | 16.2                       |
| Uncoated Free Sheet                                             | 67,858     | 99,330    | 7,485     | 11,134  | 7,577     | 11,467  | 81,608                    | 43.4                       |
| Other Printing & Writing                                        | 24,554     | 31,414    | 2,488     | 3,147   | 4,617     | 4,967   | 35,173                    | 38.6                       |
| Total Pkg. & Other Paper                                        | 294,201    | 292,659   | 31,980    | 29,466  | 29,509    | 30,707  | 376,200                   | 28.6                       |
| Unbleached Kraft                                                | 89,194     | 48,758    | 8,622     | 4,134   | 8,334     | 4,414   | 101,818                   | 20.0                       |
| Other Pkg. & Indust. Paper                                      | 205,007    | 251,901   | 23,358    | 25,332  | 21,176    | 26,293  | 274,381                   | 32.0                       |
| Tissue                                                          | 38,332     | 30,790    | 5,713     | 3,584   | 12,024    | 3,080   | 73,069                    | 158.0                      |
| Paperboard, Total                                               | 3,550,021  | 1,444,926 | 335,190   | 146,592 | 279,779   | 127,279 | 3,946,299                 | 14.7                       |
| Solid Wood Pulp                                                 | 3,218,952  | 1,321,618 | 310,199   | 135,449 | 255,175   | 115,559 | 3,645,587                 | 14.1                       |
| Total Linerboard                                                | 2,296,633  | 812,161   | 215,868   | 82,847  | 165,605   | 65,191  | 2,325,853                 | 4.3                        |
| Bleached Kraft Linerboard                                       | 102,266    | 46,429    | 11,261    | 6,716   | 5,296     | 4,150   | 154,674                   | 178.7                      |
| Unbleached Kraft Linerbd                                        | 2,194,367  | 765,731   | 204,607   | 76,131  | 160,310   | 61,041  | 2,171,179                 | -0.1                       |
| Other Unbleached Kraft                                          | 210,566    | 78,596    | 28,346    | 8,758   | 26,952    | 8,297   | 561,816                   | 157.9                      |
| Other Bleached Kraft                                            | 647,803    | 407,923   | 61,922    | 42,377  | 59,258    | 40,765  | 702,129                   | 5.6                        |
| Semi-Chemical Corrugating                                       | 63,951     | 22,938    | 4,062     | 1,468   | 3,360     | 1,306   | 55,709                    | -33.1                      |
| Recycled Paperboard                                             | 331,069    | 123,308   | 24,991    | 11,143  | 24,604    | 11,720  | 300,712                   | 23.0                       |
| Convtd Papers&Paperbd Products                                  | 725,196    | 823,399   | 66,865    | 84,328  | 78,322    | 93,695  | 814,431                   | 23.5                       |
| Paper Products, Total                                           | 301,202    | 540,681   | 31,345    | 55,938  | 36,195    | 61,811  | 358,863                   | 25.1                       |
| Paperboard Products, Total                                      | 423,994    | 282,718   | 34,721    | 28,389  | 42,127    | 32,684  | 455,569                   | 22.4                       |
| Wet Machine Board                                               | 17,320     | 7,816     | 811       | 351     | 1,106     | 472     | 12,632                    | -42.8                      |
| Construction Paper & Board E                                    | 98,024     | 51,495    | 9,392     | 4,897   | 11,527    | 9,733   | 116,209                   | 38.4                       |
| Notes                                                           |            |           |           |         |           |         |                           |                            |
| Other: No Weight Avail. (\$000)                                 |            | 8,037     |           | 590     |           | 544     | 8,330                     | 3.8                        |
| Total Exports Incl. Other(\$000)                                |            | 6,015,855 |           | 613,212 |           | 601,267 | 7,217,275                 | 27.9                       |

SOURCE: Bureau of Census, U.S. Department of Commerce. E - Incl. estim. of tonnage based on square foot data.  
 (1) Annual Rate Year-To-Date is in tons unless otherwise specified in item description.

PRODUCER PRICE INDEXES  
1982 = 100

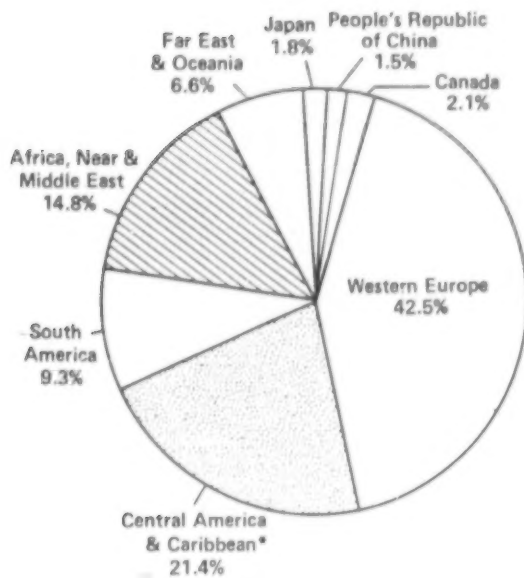
|                                                                    | 1986  | 1987  | MARCH<br>1988 | APRIL<br>1988 | MAY<br>1988 | JUNE<br>1988 | Annual<br>Rate<br>Y-T-D<br>1988 | % Change<br>from same<br>Period<br>Last Year |
|--------------------------------------------------------------------|-------|-------|---------------|---------------|-------------|--------------|---------------------------------|----------------------------------------------|
| Pulp, Paper and Products<br>except Building Grades                 | 107.5 | 114.3 | 120.7         | 122.6         | 124.1       | 124.8        | 121.9                           | 8.2                                          |
| Pulp Paper & Products, ex. Build-<br>ing Grades & ex Waste Paper * | 106.9 | 113.2 | 119.5         | 121.5         | 123.1       | 123.8        | 120.8                           | 8.2                                          |
| Total Wood Pulp                                                    | 94.7  | 111.5 | 126.9         | 135.0         | 137.2       | 140.1        | 131.5                           | 21.2                                         |
| Total Paper                                                        | 107.0 | 111.5 | 119.7         | 121.0         | 122.0       | 122.3        | 120.3                           | 9.3                                          |
| Total Paper, exc. Newsprint                                        | 107.9 | 101.1 | 119.0         | 120.7         | 121.8       | 121.9        | 119.9                           | 9.8                                          |
| Newsprint                                                          | 103.3 | 112.3 | 127.0         | 127.2         | 127.5       | 127.5        | 127.4                           | 17.4                                         |
| Total Paperboard                                                   | 106.5 | 118.1 | 127.1         | 132.6         | 133.1       | 134.0        | 130.1                           | 12.7                                         |
| Total Paper and Paperboard *                                       | 106.8 | 113.6 | 122.0         | 124.6         | 125.5       | 126.0        | 123.4                           | 10.4                                         |
| Converted Products                                                 | 109.4 | 114.7 | 118.9         | 119.8         | 122.0       | 122.7        | 120.1                           | 5.9                                          |
| Waste Paper                                                        | 142.6 | 101.4 | 190.5         | 107.9         | 104.5       | 103.9        | 100.9                           | 0.1                                          |
| All Commodities                                                    | 100.2 | 102.8 | 104.9         | 105.8         | 106.5       | 107.4        | 105.8                           | 3.9                                          |
| Industrial Commodities                                             | 100.0 | 102.6 | 104.7         | 105.6         | 106.1       | 106.5        | 105.5                           | 3.9                                          |

SOURCE: Producer Price Indexes: Bureau of Labor Statistics, U.S. Department of Labor \* Computed by API

## KRAFT LINERBOARD EXPORTS

Percent Distribution of U.S. Exports by Major Area of Destination

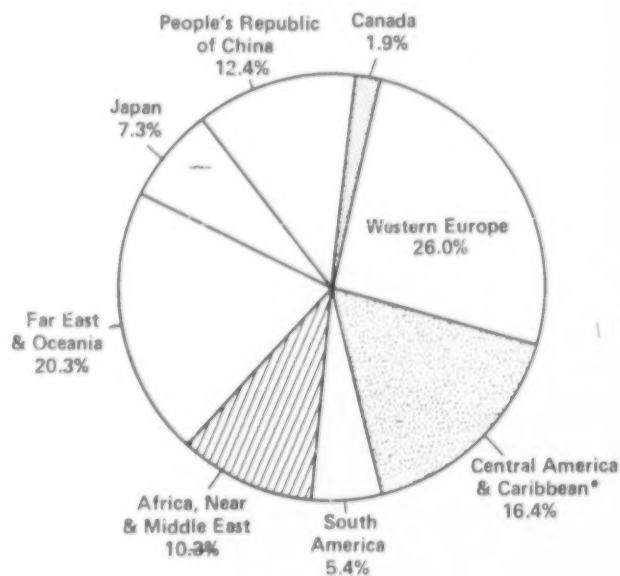
1977



1, 428, 038 Tons

\*Includes Mexico

1987



2, 294, 978 Tons

Percentages may not add due to rounding.

Source: International Department, API

## FIBROUS MATERIALS

U.S. shipments of chemical grade market pulp exceeded their year-ago volume by 6.1% during the first half of 1988. Both domestic and foreign demand remained strong. Exports of chemical grade market pulp exceeded their year-ago volume by 7.2% during the first half of 1988. The major export gains were to Asia/Africa (up 23%) and Japan (up 22%). On the other hand, U.S. shipments to Latin America were off 7.9% relative to the first half of 1987. Shipments to Western Europe were virtually unchanged. U.S. shipments to the domestic market were ahead 4.6% during the first six months of 1988, reflecting strong growth in paper production.

Capacity utilization rates for chemical grade market pulp averaged 100% during the first half of 1988, versus 98% last year, and inventories have remained lean. In fact, with shipments for the month of June exceeding production by nearly 50,000 short tons, producers' inventories of chemical grade market pulp declined from 13 days of supply at the end of May to just 10 days at the end of June, which was the lowest level since March 31, 1980. Consumers' inventories of purchased paper grade pulp held stable at 32 days of supply at the end of May -- the same level reported for the end of April, but well below the 46-day mark reached on April 30th, 1984.

## LINERBOARD EXPORT TRENDS

The past two years were marked by significant increases in U.S. kraft linerboard exports. According to the U.S. Bureau of the Census Bureau, tonnage exports of kraft linerboard soared 21.5% in 1986 and then climbed an additional 5.4% in 1987, to 2,294,978 tons. During the initial four months of 1988, they exceeded their year-ago volume by 6.5%.

Much of last year's strength in kraft linerboard exports derived from U.S. shipments to the People's Republic of China, which increased by 59.9%, to 284,383 tons. As a result of that massive gain, China displaced the United Kingdom as the largest importer of U.S. kraft linerboard. (See table below.) The U.S. also shipped significantly more kraft linerboard to other countries in the Far East/Oceania in 1987: Australia, Taiwan, the Philippines, Singapore, and South Korea. U.S. exports of linerboard to Japan advanced just 0.5% in 1987 as large increases in Japan's own output of containerboard served to satisfy rapid gains in its domestic demand.

As the pie charts on page 10 show, the Far East and Oceania have become increasingly important markets for U.S. kraft linerboard during the last ten years. Specifically, Japan's share of total U.S. kraft linerboard exports rose from 1.8% in 1977 to 7.3% last year. Over the same ten years, China's share expanded from 1.5% to 12.4%; the other nations of the Far East and Oceania increased their share from 6.6% to 20.3%.

U.S. kraft linerboard exports to Western Europe declined 6.2% last year, to 596,652 tons. The decline reflected reduced exports to all major Western European nations, except Italy. Although Western Europe remains an important market for U.S. kraft linerboard exports, its share of the total has declined from 42.5% in 1977 to 26% last year. Whereas 26% of total U.S. kraft linerboard exports (596,652 tons) went to Western Europe last year, the Nordic countries shipped 92% (1.413 million tons) of their kraft linerboard exports to this region in 1987.

**U.S. KRAFT LINERBOARD EXPORTS BY MAJOR COUNTRY OF  
DESTINATION**  
(short tons)

|                               | 1986    |      | 1987    |      |
|-------------------------------|---------|------|---------|------|
|                               | Tons    | Rank | Tons    | Rank |
| People's Republic<br>of China | 182,364 | 2    | 284,383 | 1    |
| United Kingdom                | 228,602 | 1    | 211,562 | 2    |
| Japan                         | 166,110 | 3    | 166,898 | 3    |
| Hong Kong                     | 163,905 | 4    | 141,246 | 4    |
| Italy                         | 114,170 | 5    | 123,262 | 5    |
| West Germany                  | 114,051 | 6    | 112,620 | 6    |

Source: API International Department

Technical Note: API compiles and publishes data on production of unbleached kraft linerboard for export. The API data differ from the Census Bureau data with respect both to timing -- production for export obviously precedes exports -- and coverage. It should also be pointed out that the Census Bureau export data reviewed in the preceding paragraphs include a small volume -- 102,000 tons in 1987-- designated as bleached kraft linerboard. API believes this to be mottled white or related grades of unbleached kraft linerboard that have been misclassified as bleached linerboard.

For a more detailed discussion of kraft linerboard exports, see Exports of Kraft Linerboard and Corrugating Material from Major Supplying Countries to World Markets. This publication, prepared by API's International Department, covers exports from the U.S. as well as eight other major exporting countries. The report was recently sent to member companies. The cost to non-members is \$100.00 (domestic); (\$105 international).

INDUSTRY FACT SHEET

AMERICAN PAPER INSTITUTE, INC.  
260 Madison Avenue  
New York, New York 10016

July 29, 1988

PRODUCTION (000 TONS)

|                               | JUNE<br>1988 | MAY<br>1988 | JUNE<br>1987 | FIRST SIX MONTHS<br>1988 | FIRST SIX MONTHS<br>1987 | % CHANGE<br>YR TO DATE<br>1988/1987 |
|-------------------------------|--------------|-------------|--------------|--------------------------|--------------------------|-------------------------------------|
| PAPER GRADES                  |              |             |              |                          |                          |                                     |
| Newsprint                     | 490          | 514         | 490          | 2,989                    | 2,859                    | 4.5                                 |
| Printing & Writing            | 1,735        | 1,780       | 1,721        | 10,874                   | 10,135                   | 7.3                                 |
| Uncoated Groundwood (s)       | 123          | 135         | 119          | 780                      | 755                      | 3.4                                 |
| Coated Paper (s)              | 599          | 600         | 575          | 3,691                    | 3,320                    | 11.2                                |
| Uncoated Free Sheet Paper (s) | 899          | 921         | 912          | 5,649                    | 5,339                    | 5.8                                 |
| Thin Paper (s)                | 18           | 18          | 20           | 118                      | 129                      | -8.5                                |
| Cotton Fiber Paper (s)        | 13           | 14          | 15           | 83                       | 84                       | -1.3                                |
| Bleached Bristols (s)         | 84           | 93          | 80           | 554                      | 510                      | 8.7                                 |
| Tissue Paper                  | 450          | 463         | 439          | 2,713                    | 2,616                    | 3.7                                 |
| Total Pkg & Other Paper       | 421          | 419         | 407          | 2,608                    | 2,554                    | 2.1                                 |
| Unbl. Kraft Paper (s)         | 241          | 236         | 247          | 1,512                    | 1,560                    | -3.1                                |
| Other Paper                   | 180          | 183         | 160          | 1,096                    | 994                      | 10.2                                |
| TOTAL PAPER                   | 3,096        | 3,176       | 3,056        | 19,184                   | 18,164                   | 5.6                                 |

PAPERBOARD GRADES

|                              |       |       |       |        |        |     |
|------------------------------|-------|-------|-------|--------|--------|-----|
| Unbleached Kraft Paperboard  | 1,583 | 1,653 | 1,607 | 9,673  | 9,262  | 4.4 |
| Unbleached Kraft Linerboard  | 1,477 | 1,543 | 1,492 | 9,022  | 8,616  | 4.7 |
| Other Unbl. Kraft Paperboard | 106   | 110   | 115   | 651    | 646    | 0.8 |
| Semichemical Paperboard      | 466   | 491   | 465   | 2,839  | 2,799  | 1.4 |
| Bleached Paperboard          | 366   | 360   | 352   | 2,223  | 2,214  | 0.4 |
| Recycled Paperboard          | 734   | 761   | 700   | 4,482  | 4,224  | 6.1 |
| TOTAL PAPERBOARD             | 3,150 | 3,264 | 3,124 | 19,217 | 18,500 | 3.9 |
| TOTAL PAPER AND PAPERBOARD   | 6,246 | 6,441 | 6,181 | 38,401 | 36,664 | 4.7 |

| WOOD PULP (ALL GRADES)        | MAY<br>1988 | APRIL<br>1988 | MAY<br>1987 | FIRST FIVE MONTHS<br>1988 | FIRST FIVE MONTHS<br>1987 | % CHANGE<br>YR TO DATE<br>1988/1987 |
|-------------------------------|-------------|---------------|-------------|---------------------------|---------------------------|-------------------------------------|
| Dissolving & Special Alpha    | 99          | 105           | 99          | 528                       | 527                       | 0.1                                 |
| Bleached Sulfite )            | 109         | 120           | 113         | 617                       | 591                       | 4.4                                 |
| Unbleached Sulfite )          |             |               |             |                           |                           |                                     |
| Bleached & Semi-Bl. Sulfate   | 2066        | 2164          | 2093        | 10870                     | 10463                     | 3.9                                 |
| Unbleached Sulfate            | 1820        | 1748          | 1785        | 9065                      | 8791                      | 3.1                                 |
| Semichemical                  | 373         | 354           | 352         | 1811                      | 1777                      | 1.9                                 |
| Groundwood & Thermomechanical | 507         | 509           | 470         | 2506                      | 2312                      | 8.4                                 |
| TOTAL PULP DIVISION DATA      | 4974        | 4999          | 4912        | 25396                     | 24461                     | 3.8                                 |

(s) - Shipments  
P - Preliminary

JULY 28, 1988

| JULY 28, 1988                                       | Full Year |           | INDUSTRY DATA<br>1987 - 1988 |         |         | Ann. Rate<br>Year -<br>To - Date | % From<br>Same Pd.<br>Last Year |
|-----------------------------------------------------|-----------|-----------|------------------------------|---------|---------|----------------------------------|---------------------------------|
|                                                     | 1986      | 1987      | April                        | May     | June    | 1988                             |                                 |
| PAPER AND PAPERBOARD -- Tons (000)                  |           |           |                              |         |         |                                  |                                 |
| Total Production (API)..... excluding ....          | 70,889    | 74,429    | 6,311                        | 6,441   | 6,246   | 76,892                           | 4.7                             |
| Total Seasonally Adjusted.....construction:...      |           |           | 6,383                        | 6,395   | 6,407   | 76,523                           | 4.2                             |
| Imports (including Products)..... and wet ...E      | 11,597    | 12,528    | 1,063                        | 1,095   | 1,085   | 12,924                           | 4.1                             |
| Exports (including Products)..... machine ...E      | 4,593     | 5,197     | 495                          | 452     | 450     | 5,762                            | 12.3                            |
| Apparent Consumption..... grades ....               | 77,893 a  | 81,760 b  | 6,950                        | 7,038   | 7,042   | 83,682                           | 3.6                             |
| Paper Production & Tonnage Capacity.....            | 93.2 g    | 94.0      | 96.8                         | 93.4    | 93.5    | 96.6                             | -                               |
| Paperboard Production & Tonnage Capacity.....       | 94.3 g    | 96.8      | 96.5                         | 98.4    | 97.4    | 99.4                             | -                               |
| IMPORTS.....including Construction and ....         | 11,936    | 12,837    | 1,199                        | 1,088   | 1,123   | 13,195                           | 3.8                             |
| EXPORTS..... WMB Grades (excl. HPB) ....            | 4,687     | 5,304     | 548                          | 526     | 464     | 5,963                            | 16.0                            |
| MARKET WOOD PULP PRODUCTION - Tons (000).....       | 7,572     | 8,114     | 728                          | 676     | 642     | 8,386                            | 6.2                             |
| TOTAL WOOD PULP PRODUCTION - Tons (000).....        | 57,205    | 59,552    | 5,222                        | 5,004   | 4,991   | 60,980                           | 1.9                             |
| WOOD PULP IMPORTS - TONS (000).....                 | 4,582     | 4,850     | 432                          | 428     | 415     | 5,025                            | 2.3                             |
| WOOD PULP EXPORTS - TONS (000).....                 | 4,458     | 4,889     | 491                          | 453     | 433     | 5,307                            | 15.4                            |
| RAW MATERIALS CONSUMPTION - Tons (000)              |           |           |                              |         |         |                                  |                                 |
| ..PAPER AND BOARD MILLS : excluding :               |           |           | March                        | April   | May     |                                  |                                 |
| Wood Pulp.....consumption for:.....                 | 57,061    | 59,488    | 5,205                        | 5,004   | 5,042   | 60,974                           | 1.5                             |
| Waste Paper.....construction & :.....               | 17,285    | 18,296    | 1,661                        | 1,541   | 1,611   | 18,952                           | 9.3                             |
| TOTAL..... WMB grades :.....                        | 74,345    | 77,784    | 6,866                        | 6,545   | 6,653   | 79,926                           | 4.9                             |
| PULPWOOD CONSUMPTION Cords(000)Amer.Pulpwd. Assn    | 31,434    | 33,346    | 3,249                        | 3,127   | 2,552   | 36,285                           | 2.2                             |
| EMPLOYMENT (000)                                    |           |           | April                        | May     | June    |                                  |                                 |
| Paper and Allied Products.....Total.....E           | 673.7     | 679.8     | 684.2                        | 686.7   | 695.3   | 685.7                            | 1.6                             |
| Pulp, Paper and Board Mills.....Total.....E         | 248.1     | 244.9     | 244.2                        | 244.7   | 246.5   | 244.6                            | -3.3                            |
| AVERAGE HOURLY EARNINGS OF PRODUCTION WORKERS (\$)  |           |           | April                        | May     | June    |                                  |                                 |
| Paper and Allied Products.....                      | 11.18     | 11.42     | 11.60                        | 11.63   | 11.60   | 11.57                            | 2.3                             |
| Pulp, Paper Mills.....E                             | 13.63     | 14.00     | 14.15                        | 14.30   | 14.25   | 14.15                            | 2.2                             |
| Paperboard Mills.....E                              | 13.98     | 14.30     | 14.53                        | 14.59   | 14.57   | 14.44                            | 1.9                             |
| CAPITAL EXPENDITURES, PAPER & ALLIED PRODUCTS       |           |           | 1987 Q3                      | 1987 Q4 | 1988 Q1 |                                  |                                 |
| (Rept. by US Dept. of Com., Ann. Rates, Bill.S.)*   | 8.77      | 8.92      | 8.34                         | 10.22   | 9.58    | 11.37                            | 27.5                            |
| INDEX OF OUTPUT PER MAN-HOUR (1977=100).....        |           |           | April                        | May     | June    |                                  |                                 |
| IN PULP, PAPER ....Production Workers.....          | 131.5     | 140.4     | 145.1                        | 142.5   | 11504.3 | 2037.9                           | 176.7                           |
| AND BOARD MILLS:....All Employees.....              | 128.9     | 137.1     | 141.7                        | 139.6   | 136.6   | 140.5                            | 3.6                             |
| PAPER AND ALLIED PRODUCTS (Million \$)              |           |           | March                        | April   | May     |                                  |                                 |
| Industry Shipments (Dept. of Commerce)*.....        | 103,916   | 118,855   | 10,674                       | 10,990  | 11,043  | 129,866                          | 14.7                            |
| Pulp, Paper and Paperboard*.....                    | 44,033    | 51,518    | 4,723                        | 5,039   | 4,920   | 58,769                           | 29.9                            |
| Inventories (End of Period) - Total Industry*..     | 10,429    | 11,284    | 11,450                       | 11,534  | 11,544  | 11,544                           | 5.8                             |
| Pulp, Paper and Paperboard*.....                    | 4,115     | 4,266     | 4,380                        | 4,355   | 4,348   | 4,348                            | 3.5                             |
| Sales (Corporations Only).....                      | 74,844    | 95,576 RS | 24,710                       | 25,088  | 25,504  | 102,016                          | 46.3                            |
| Earnings (Corporations Only).....                   | 3,280     | 5,520 RS  | 1,586                        | 1,495   | 1,744   | 6,976                            | 56.8                            |
| Depreciation (Corporations Only).....               | 3,389     | 4,279 RS  | 1,128                        | 1,051   | 1,169   | 4,676                            | 20.2                            |
| Net Worth (Corporations Only).....                  | 31,221    | 39,217 RS | 38,340                       | 39,217  | 48,213  | 48,213                           | 11.0                            |
| PRICE INDEXES (Bureau of Labor Stats)1982=100       |           |           | April                        | May     | June    |                                  |                                 |
| Pulp, Paper & Products, ex. Building Grades....     | 107.5     | 114.3     | 122.6                        | 124.1   | 124.8   | 121.9                            | 8.2                             |
| Wood Pulp.....                                      | 94.7      | 111.6     | 135.0                        | 137.2   | 140.1   | 131.5                            | 21.2                            |
| Waste Paper.....                                    | 142.6     | 181.4     | 187.9                        | 184.5   | 183.9   | 188.9                            | 9.1                             |
| Paper.....                                          | 107.0     | 111.5     | 121.0                        | 122.0   | 122.3   | 120.3                            | 9.3                             |
| Paperboard.....                                     | 106.5     | 118.1     | 132.6                        | 133.1   | 134.0   | 130.1                            | 12.7                            |
| PAPER DEMAND (INDEXED: 1977=100)                    |           |           | April                        | May     | June    |                                  |                                 |
| Total Paper Production *.....                       | 128.0     | 133.8     | 138.8                        | 139.3   | 139.7   | 138.6                            | 5.8                             |
| Paper New Supply *.....                             | 133.7     | 140.6     | 144.6                        | 147.4   | 143.4   | 139.9                            | 4.5                             |
| Demand Indicators - (Weighted Average) *.....       | 146.7     | 154.4     | 161.1                        | 161.0   | 159.4   | 162.2                            | 5.4                             |
| Production of Nondurable Goods *... (21.2%)         | 130.1     | 136.8     | 142.1                        | 142.1   | 142.2   | 141.8                            | 5.3                             |
| Disposable Income *... (23.9%)                      | 128.9     | 129.6     | 131.2                        | 132.0   | 124.8   | 130.8                            | 1.6                             |
| Total Printing and Publishing *... (54.9%)          | 160.9     | 172.0     | 181.5                        | 180.9   | 181.5   | 180.1                            | 6.7                             |
| Trend Factor                                        |           |           | Not Available                |         |         |                                  |                                 |
| PAPERBOARD DEMAND (INDEXED: 1977=100)               |           |           | April                        | May     | June    |                                  |                                 |
| Total Paperboard Production *.....                  | 121.9     | 129.1     | 131.7                        | 131.8   | 131.8   | 131.7                            | 3.3                             |
| Production for Domestic Use *.....                  | 118.7     | 126.5     | 129.8                        | 129.8   | 140.7   | 130.7                            | 4.7                             |
| Demand Indicators - (Weighted Average) *.....       | 121.9     | 125.9     | 130.6                        | 131.4   | 131.8   | 130.5                            | 5.2                             |
| Production of Consumer Goods *... (62.06%)          | 124.1     | 127.7     | 131.8                        | 132.5   | 132.7   | 131.8                            | 4.2                             |
| Production of Equipment *... ( 5.75%)               | 143.7     | 148.8     | 156.6                        | 157.7   | 158.5   | 156.4                            | 7.1                             |
| Production of Materials *... (32.19%)               | 113.8     | 118.3     | 123.6                        | 124.5   | 125.2   | 123.5                            | 6.7                             |
| Trend Factor                                        |           |           | Not Available                |         |         |                                  |                                 |
| NEWSPRINT MARKETS                                   |           |           | March                        | April   | May     |                                  |                                 |
| Consumption by Publishers - Tons (000).....         | 13,158    | 13,583    | 1,167                        | 1,122   | 1,163   | 13,370                           | 2.8                             |
| Newspaper Pub. and Printing Empl. Total(000)...     | 461       | 471       | 475                          | 475     | 476     | 476                              | 2.3                             |
| PRINTING AND FINE PAPER MARKETS                     |           |           | April                        | May     | June    |                                  |                                 |
| MAGAZINE ADVERTISING PAGES (PIB, Inc.).....         | 154,317   | 159,362   | 14,407                       | 15,192  | 15,065  | 161,788                          | 4.1                             |
| WHOLESALE SALES AND INVENTORIES (Million \$)        |           |           | April                        | May     | June    |                                  |                                 |
| Total Paper & Pap. Prdcts., ex Wallpaper..Sales     | 38,245    | 44,741    | 4,600                        | 4,329   | 4,114   | 49,766                           | 22.3                            |
| Inventories (End of Period).....                    | 3,577     | 3,850     | 4,120                        | 4,107   | 4,114   | 4,114                            | 15.8                            |
| FIBRE BOX DATA (Fibre Box Association)              |           |           | April                        | May     | June    |                                  |                                 |
| Fibre Box Shipments (Million square feet).....      | 283,921   | 297,827   | 26,844                       | 24,997  | 25,830  | 307,372                          | 4.4                             |
| Container'bd Inventory at Mill & Plant(000Tons).    | 2,238     | 2,486     | 2,550                        | 2,595   | 2,633   | 2,633                            | 5.4                             |
| RETAIL TRADE (Billion \$)                           |           |           | April                        | May     | June    |                                  |                                 |
| Total Retail Sales *.....                           | 1,437     | 1,509     | 132                          | 132     | 133     | 1,575                            | 6.4                             |
| Nondurable Goods Stores Sales *.....                | 899       | 951       | 81                           | 82      | 82      | 975                              | 3.7                             |
| GENERAL ECONOMIC DATA                               |           |           | April                        | May     | June    |                                  |                                 |
| TOTAL INDUSTRIAL PRODUCTION (INDEX 1977 = 100)*..   | 125.1     | 129.8     | 135.4                        | 136.1   | 136.6   | 135.3                            | 6.3                             |
| PRODUCER PRICES(ALL COMMODITIES)(INDEX 1982=100)..  | 100.2     | 102.8     | 105.8                        | 106.5   | 107.4   | 105.6                            | 3.9                             |
| CONSUMER PRICES (ALL ITEMS) (INDEX 1982 = 100)...   | 109.6     | 113.6     | 117.1                        | 117.3   | 118.0   | 116.8                            | 3.9                             |
| TOTAL CONSUMER CREDIT OUTSTANDING - (Billion \$)... | 586       | 621       | 621.6                        | 627.1   | 631.3   | 631.8                            | 8.3                             |
| GROSS NATIONAL PRODUCT - ANNUAL RATE (Billions)...  |           |           | 1987 Q4                      | 1988 Q1 | 1988 Q2 |                                  |                                 |
| G.N.P. or Expenditure - Current \$.....             | 8,475     | 4,527     | 4,563                        | 4,725   | 4,807   | 4,766                            | 7.4                             |
| G.N.P. or Expenditure - 1982 \$.....                | 7,435     | 3,847     | 3,923                        | 3,956   | 3,996   | 3,971                            | 4.5                             |

lb/capita

f - Wood Pulp Production excludes def., explo. &amp; scrpns.

R - Revised

Y - Full year estim. by  
U.S. Dept. of Com.

\* - Seasonally Adjusted.

Pap&Papod Othr Totl Popul(mil)  
 .a - 645 + 18 = 663 241.6  
 .b - 670 + 17 = 687 243.8  
 .c - 682 + 17 = 699 244.7  
 .e - estimated by API

Q - Quarter